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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,146	03/29/2006	Guofu Zhou	H-358US	3770

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EXAMINER
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SPAR, ILANA L

ART UNIT	PAPER NUMBER
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2629

MAIL DATE	DELIVERY MODE
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06/17/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/574,146	<b>Applicant(s)</b> ZHOU ET AL.	
	<b>Examiner</b> ILANA SPAR	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/12/2007, 5/27/2007, 5/27/2007, 5/27/2007</u> .              | 6) <input type="checkbox"/> Other: _____                          |



## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-11 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11 of copending Application No. 10/574,148. Although the conflicting claims are not identical, they are not patentably distinct from each other because both inventions are directed to the application of a setting signal to an electrophoretic display. Claim 1 of the current invention teaches an electrophoretic display which applies a setting signal to the display before the transition of the alternating voltage. Claim 3 of the copending application also teaches an electrophoretic display, which also applies a setting signal to the display before the transition of the alternating voltage. Although the description of the display

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hardware is not identical, the displays are able to carry out the same functions, and the driving method claimed is the same. Therefore, the two inventions are not patentably distinct.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5-7, and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Katase (US Published Patent Application 2002/0021483).

With reference to claim 1, Katase teaches an electrophoretic display unit comprising

an electrophoretic display panel comprising a pixel coupled to a pixel electrode (see paragraph 89, lines 1-6 and 25-26);

data driving circuitry for supplying a data pulse to the pixel electrode via a switching element (see paragraph 93);

a common electrode coupled to the pixel for receiving an alternating voltage signal (see paragraph 89, lines 7-8); and

a controller for controlling the data driving circuitry for supplying a setting signal to the pixel electrode for reducing a voltage across the pixel before a transition of the alternating voltage signal (see paragraph 95, paragraphs 124-125, and paragraph 140).

With reference to claim 2, Katase teaches all that is required with reference to claim 1, and further teaches that the switching element comprises a transistor, having a gate, source and drain, the data driving circuitry being coupled to the source via a data electrode the selection driving circuitry being coupled to the gate via a selection electrode, and the pixel electrode being coupled to the drain (see paragraph 96, lines 5-12).

With reference to claim 3, Katase teaches all that is required with reference to claim 1, and further teaches that the data pulse is supplied during a driving frame period; and the setting signal is supplied during a setting frame period, the alternating voltage signal having the transition after the setting frame period (see paragraphs 124-125 and paragraph 140).

With reference to claim 5, Katase teaches all that is required with reference to claim 3, and further teaches that the setting frame period is shorter than the driving frame period (see Figure 13, driving frame period  $T_v$  and setting frame period  $T_b$ ).

With reference to claim 6, Katase teaches all that is required with reference to claim 1, and further teaches that the alternating voltage signal and the setting signal have equal polarities during a setting frame period (see Figure 13, signals  $X_j$  and  $W_j$ ).

With reference to claim 7, Katase teaches all that is required with reference to claim 1, and further teaches that an amplitude of the alternating voltage signal and an

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amplitude of the setting signal are substantially equal to each other during a setting frame period (see Figure 13, signals X<sub>j</sub> and W<sub>j</sub>).

With reference to claim 9, Katase teaches all that is required with reference to claim 1, and further teaches a storage medium for storing information to be displayed (see paragraph 109).

With reference to claim 10, Katase teaches a method of driving an electrophoretic display unit comprising an electrophoretic display panel, which comprises a pixel coupled to a pixel electrode, which method comprises the steps of supplying a data pulse to the pixel electrode (see paragraph 133);

supplying an alternating voltage signal to a common electrode coupled to the pixel via a switching element (see paragraph 133); and

controlling the data driving circuitry for supplying a setting signal to the pixel electrode for reducing a voltage across the pixel before a transition of the alternating voltage signal (see paragraph 140).

With reference to claim 11, Katase teaches a driving unit for driving an electrophoretic display unit comprising an electrophoretic display panel comprising a pixel coupled to a pixel electrode and to a common electrode for receiving an alternating voltage signal, the driving unit comprising:

data driving circuitry for supplying a data pulse to the pixel electrode via a switching element (see paragraph 93);

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a controller for controlling the data driving circuitry for supplying a setting signal to the pixel electrode for reducing a voltage across the pixel before a transition of the alternating voltage signal (see paragraph 95, paragraphs 124-125, and paragraph 140).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katase in view of Applicant's admitted prior art.

With reference to claim 4, Katase teaches all that is required with reference to claim 3, but fails to teach that the data pulse is supplied during more than one consecutive driving frame period.

Applicant's admitted prior art teaches that the data pulse is supplied during more than one consecutive driving frame period (see page 2, lines 28-30).



It would have been obvious to one of ordinary skill in the art at the time of invention that a data signal may be applied to a display for as many frames as is required in order to properly display the image/video as intended.

With reference to claim 8, Katase teaches all that is required with reference to claim 1, but fails to teach the application of a shaking data pulse.

Applicant's admitted prior art teaches that the controller is adapted to control the data driving circuitry to provide

shaking data pulses;

one or more reset data pulses; and

one or more driving data pulses;

to the pixel (see page 2, lines 22-30).

It would have been obvious to one of ordinary skill in the art at the time of invention that it is advantageous to apply a shaking signal to the display to reduce display memory of images before writing subsequent images to the display, such that there is less 'sticking' of images, as is common in electrophoretic displays.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ILANA SPAR whose telephone number is (571)270-7537. The examiner can normally be reached on Monday-Thursday 8:00-4:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571)272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bipin Shalwala/

Supervisory Patent Examiner, Art Unit 2629

ILS